

### **REMARKS**

This responds to the Office Action dated April 15, 2010. Reconsideration is respectfully requested.

Claims 1, 3, 4, 6, 8-11, 14 and 16 are amended, no claims are canceled, and no claims are added; as a result, claims 1- 24, 26 and 27 are now pending in this application.

#### **The Rejection of Claims Under § 103**

Claims 1, 3, 4, 6, 8-11, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tu et al. (U.S. 2005/0144650) and Shah (U.S. 6,173,164) in view of Nedec et al. (U.S. 2003/0063680).

Claim 1 has been amended to clarify that the receiver is a quasi-parallel wideband receiver that receives signals that are transmitted simultaneously on subchannels of a wideband channel. The wideband channel comprises a plurality of subchannels. The receiver includes plurality of subchannel low-pass filters, each associated with one of the subchannels, and a subchannel filter selection switch that is to select a subchannel low-pass filter associated with one of the outputs during a filter-input sampling interval to provide an analog baseband signal to the selected one of the subchannel low-pass filters. As recited in claim 1, the subchannel low-pass filters are to accumulate signal information from an associated one of a plurality of subchannels during the filter-input sampling interval that is to occur at least as often as an inverse of a bandwidth of a subchannel. In this way, the receiver is a quasi-parallel wideband receiver that can receive signals that are transmitted simultaneously on the subchannels that comprise wideband channel.

Support for the amendment to claim 1 may be found in Applicant's claim 2 as well as other pending claims.

According to the Examiner, neither Tu or Shah disclose "a subchannel filter selection switch having a plurality of outputs, wherein each output is coupled to an input of one of the subchannel low-pass filters, the subchannel filter selection switch is to select a subchannel low-pass filter associated with one of the outputs".

Nedic has been cited by the Examiner for disclosing a subchannel filter selection switch and states that it would be obvious to replace the switch of Tu and Shah with the “switch having a plurality of outputs, wherein each output is coupled to an input of one of the subchannel low-pass filters, the subchannel filter selection switch is to select a subchannel low-pass filter associated with one of the outputs of Nedic et al. because one of ordinary skill in the art would have been able to carry out such a simple substitution and the results were reasonably predictable”. Applicant respectfully disagrees with this interpretation and application of Nedic. Nedic teaches the use of a commutator 28 in a receiver and a commutator 27 in a transmitter (see Nedic FIG. 2B). These commutators allow a non-linear per-bin adaptive equalization of the channel for multicarrier signals with overlapping spectra to be performed (see Nedic abstract, paragraphs [0033], [0034] and [0038]). The receiver commutator 28 supplies data to a bank of filters that have impulse responses based on channel decompositions so that the real data symbols can be fully recovered (see Nedic paragraphs [0038] and [0039]). Note that the transfer function of these filters is the inverse of the equivalent channel transfer function (see Nedic paragraph [0042]).

On the other hand, each of Applicant’s subchannel filter selection switch provides an analog baseband signal to one selected subchannel low-pass filter during a filter-input sampling interval. Each subchannel low-pass filter is associated with a subchannel that is part of a wideband channel. As recited in Applicant’s claim 1, the subchannel low-pass filters accumulate signal information from an associated one of a plurality of subchannels during a filter-input sampling interval that occurs at least as often as an inverse of a bandwidth of a subchannel. In this way, signals that are transmitted simultaneously on subchannels of the wideband channel may be received without the cost and complexity of a true wideband receiver. Applicant finds no teaching or suggestion in Nedic or any of the other cited references, to use a subchannel filter selection switch to accumulate signal information from within a subchannel of a wideband channel as recited in Applicant’s claim 1.

Applicant submits that the Examiner has not provided a sufficient rational analysis to support the rejection of Applicant’s claim 1 based on the combination of cited references. Furthermore, the Examiner has failed to establish a prima facie case of obviousness under 35 U.S.C. §103 since the prior art references when combined do not teach or suggest every

limitation of claim 1. In view of the above, Applicant submits that the rejection of claims 1, 3, 4, 6 and 8-11 under 35 U.S.C. §103 has been overcome.

Regarding claims 14 – 15, claim 14 has been amended to depend from claim 13, which has been allowed. Accordingly, claims 14 and 15 are believed to be allowable because of their dependency on claim 13.

Claims 16-17 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tu et al. and Shah, in view of Schaefer et al. (U.S. 7,293,101), and further in view of Nedic et al.

Based on the discussion of Nedic (above) in regard to claim 1, claim 16 is also believed to be allowable over the combination of Nedic with the other cited references. Claims 17 and 22-23 are believed to be allowable at least because of their dependency.

Since the independent claims have been amended to include recitations from previously and currently pending dependent claims, no new issues are raised by this amendment as they have already been considered by the Examiner. Accordingly, Applicant believes that the issuance of a Final Office Action should not result from this amendment to the claims.

*Allowable Subject Matter*

Claims 2, 12-13, 18-21, and 26-27 are allowed.

According to the Examiner, claim 16 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action. Applicant finds no rejection of claim 16 under 35 U.S.C. 112 and is unclear as to whether claim 16 is allowable because it is currently rejected under 35 U.S.C. 103(a) above. As discussed above, the rejection of claim 16 under 35 U.S.C. 103(a) is believed to have been overcome.

According to the Examiner, claims 17-24 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims. Applicant finds no rejection of claim 17 under 35 U.S.C. 112 and is unclear as to whether claim 17 is allowable because it is

currently rejected under 35 U.S.C. 103(a) above. Claims 17 – 24 are believed to be allowable at least because of their dependency on claim 16, which is believed to be allowable as discussed above.

According to the Examiner, claims 5 and 7 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. This objection to claims 5 and 7 is unclear to the Applicant, as claims 5 and 7 are already in independent form and are stated to be allowed in the Office Action Summary page. Applicant therefore believes that claims 5 and 7 are therefore allowed.

### CONCLUSION

Applicant respectfully submits that the claims are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone the undersigned at (480) 659-3314 to facilitate prosecution of this application.

If necessary, please charge any additional fees or deficiencies, or credit any overpayments to Deposit Account No. 19-0743.

Respectfully submitted,

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